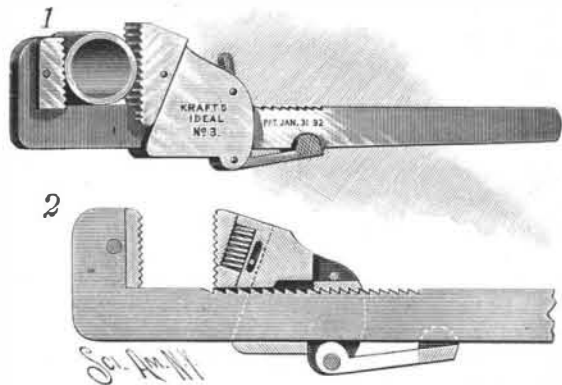


AN IMPROVED WRENCH.

The illustration represents a simple and durable wrench, patented by Mr. Charles H. F. Kraft, in which the jaws may be quickly and conveniently adjusted for different sized work. Fig. 1 shows the tool in perspective and Fig. 2 is a side sectional view. The fixed jaw on the outer end of the handle consists of a U-shaped removable piece held in position by a pin, and the movable jaw is mounted to slide on an inclined tongue of a head held longitudinally adjustable on the wrench handle, and adapted to be locked on it. The jaw is wedge-shaped, and in moving it in or out in its guide-ways it moves nearer to or farther from the fixed jaw.

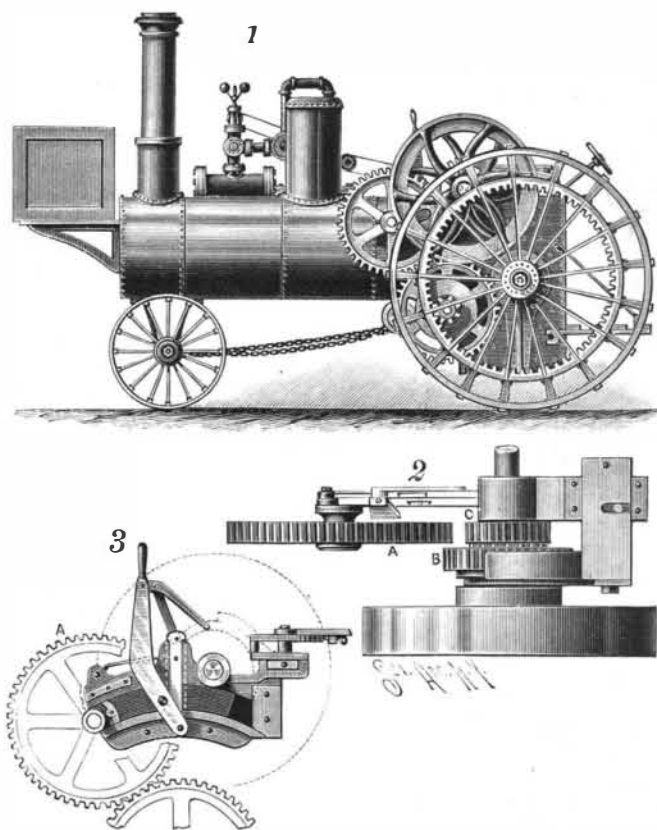


KRAFT'S WRENCH.

The movable jaw is held in place by a pin held transversely in its sides and engaging a slot in the tongue of the head. In the front face of the tongue of the head and in the under side of the jaw are recesses containing a spring to hold the jaw in an innermost position, as shown in Fig. 2. The movable head is locked in place on the handle by a toothed dog having a tongue engaging a slot in the lower end of the head, while on the opposite edge of the handle, is an eccentric cam mounted on a pin supported in lugs projecting from the head, and when the handle on the eccentric is swung away from the wrench handle, the head carrying the movable jaw can be readily moved along the handle. This wrench, while being a superior tool for pipe work, is also designed to have great efficiency for general use. The jaws being parallel allows it to grip any square nut or bolt head, and when once adjusted to the size required it cannot be changed by being moved on the bench. It is a strong wrench, and its quick and easy release from a pipe makes it very convenient in use. Further information relative to the improvement may be obtained of the Kraft Ideal Pipe Wrench Co., Battle Creek, Mich.

AN IMPROVED TRACTION ENGINE.

The machine shown in the illustration, patented by Mr. James A. Stout, can be propelled at a high or low rate of speed, and readily changed by the engineer from one speed to the other without removing or rearranging any of the parts. Fig. 1 shows the engine in



STOUT'S TRACTION ENGINE.

perspective, Figs. 2 and 3 being partial plan and side views. On the main driving shaft is a small driving pinion, C, bolted to the hub of the belt pulley, and on the inner surface of the rim of the belt pulley acts a friction pulley having a hub turning loosely on the hub of the belt pulley. On the outside of the hub of the friction pulley, and secured by a key in a longi-

tudinal keyway, is a second driving pinion, B, adapted to slide longitudinally on the hub, such movement being effected by a shifting segment by means of a handle in ready reach of the operator. The gear wheel, A, forming part of the gearing for the traction mechanism, is in alignment with the first small driving pinion, C, but is adapted to be engaged by the larger driving pinion, B, when the latter is shifted transversely. For this purpose the gear wheel, A, is mounted on a stud held on a bearing sliding in a segmental guideway formed on a pillow block, a pin on the bearing being connected with an upwardly extending lever, as shown in Fig. 3, by moving which the bearing can be shifted so that the gear wheel, A, is moved in or out of mesh with the small driving pinion, C. The gear wheel, A, does not move out of mesh with the traction gearing when the lever shifts the bearing, and the friction pulley in its normal position is always in contact with the belt pulley, being pressed thereon by springs in line with the driving shaft. When the engine is used as a power for thrashing machines, the belt can be readily tightened or loosened by running the traction engine a short distance forward or backward at a slow speed.

Further information relative to this improvement, may be obtained of the Harrison Machine Works, Belleville, Ill.

The "New Mesmerism."

Within the past few months most wonderful tales have appeared from time to time in the daily press concerning certain mesmeric performances in the Paris hospitals. It was gravely stated that Dr. Luys, of La Charité Hospital, had obtained such a development of hypnotic suggestion as to bring about a transference of sensibility to inanimate objects. For example, a person in the hypnotic state would receive a suggestion that a glass of water was part of himself and was capable of sensation. Then the glass would be taken out of his sight, and when the contained water was agitated the patient would be visibly disturbed or even give evidence of acute suffering. Other inanimate objects were capable of receiving like impressions, and there was apparent danger that this "externalization of the sensations," as it was called, would come to be regarded as an accepted fact by not a few prominent scientific men with more imagination and credulity than sound common sense.

Mr. Ernest Hart, when in Paris recently, had his attention drawn to these seemingly astounding manifestations of occult force, and was so impressed with what he saw that he determined to seek out the cause. It took him but a very short time to see that the subjects of these hypnotic experiments were impudent impostors, and that Dr. Luys was the victim of gross fraud. He suggested to the doctor the employment of certain simple tests, such as the substitution of inert substances for the drugs in sealed tubes which were supposed to act upon the subjects when brought near the body. Dr. Luys, however, declined to act upon this suggestion, saying that he could perform the experiments only in his own way, and if they failed to convince he could only express his regret. Mr. Hart then procured the attendance of five of these subjects in his own apartments and repeated the experiments in the presence of a number of Parisian and foreign medical men. The same phenomena, he says, in a communication to the *London Times*, "were reproduced with sham magnets, with substituted figures, with misnamed medicinal substances, and with distilled water, and with sham 'suggestion,' opposite suggestion, or none at all. Every one was able to convince himself that all the results so shown were, without exception, simulated, fictitious, and fraudulent. That some of the patients were hypnotic and hysterical in a high degree does not alter the fact that from beginning to end they all showed themselves to be tricksters of the most barefaced kind; some of them very clever actors, possessing dramatic powers which might have been turned to better purposes, most of them utterly venal and some of them confessing that they played upon the credulity of Dr. Luys for their own purposes."

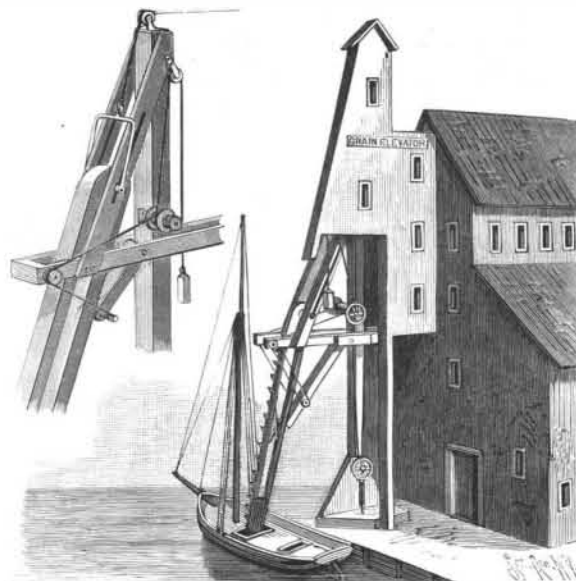
It is strange to think that men of scientific me-

dical training can be so thoroughly duped in this closing decade of the nineteenth century, and we may well pause to ask ourselves whether, after all, the world is any less credulous than it was in the good old days of witchcraft and diabolism. There may be a greater number of hard-headed skeptics abroad, but a large portion of mankind is still hungry for the incompre-

hensible and the supernatural, and as religious faith wanes superstition seems but to take a firmer hold on certain minds.—*Medical Record*.

A SHIFTING DEVICE FOR ELEVATORS.

The illustration represents a device more especially designed for grain elevators used to load or unload vessels, being adapted to conveniently shift the elevator leg to hold it in contact with the grain. The improvement is in practical service in a Buffalo, N. Y., elevator, where it is said to be giving good satisfaction. It has been patented by Mr. James Flemming, of No. 290 Perry Street, Buffalo, N. Y. The elevator leg slides in a frame extending horizontally from a post, and on the upper end of the leg are trunnions which extend through slots in braces connecting the front end of the frame with the upper end of the post. The outer ends of the trunnions are engaged by a bail connected with a rope extending over a pulley, the rope being connected with a suitable device for pulling the leg up or



FLEMMING'S ELEVATOR SHIFTING DEVICE.

letting it down. The back of the leg is supported by a friction roller journaled in the free end of a pusher arm pivoted on the frame, this arm being also connected with a rope extending forwardly and upwardly over a pulley in the outer end of the frame, thence to and around a drum turning on a stud on the vertical post, the rope then passing upward over a sheave, and supporting at its lower end a weight designed to counterbalance the weight of the elevator leg. At one end of the drum is a pulley over which passes an endless chain or rope, which passes also over a pulley provided with a hand wheel near the ground, and by manipulating this chain or rope the drum is turned to wind up or unwind the rope connected with the forward end of the pusher arm, giving the latter a forward or backward swinging motion, whereby the lower end of the leg can always be held in contact with the grain.

THE LOVELL DIAMOND CYCLE.

The new Lovell Diamond cycles, one of which is shown in the accompanying cut, are constructed much the same as the 1892 model, but with a few improvements, among which is a new Diamond frame of the Humber pattern. Lightness and strength are attained by the use of the best English seamless steel tubing, combined with American steel drop forgings. The patent adjustable ball bearings are supplied to all



THE LOVELL DIAMOND CYCLE.

running parts, and are fitted to both wheels, crank shaft pedals and head. These bearings are constructed alike. The balls are adjusted by an adjustable cone on one side and a stationary cone on the other, the bearings adjusted by the former. Removable hardened steel ball cups and ball-retaining washers are used. A leading feature in these bearings is that, in the